

# Natural Assets and GIS

British Columbia Timber Sales has a proposed logging initiative in the Quartz Creek Community Watershed of Ymir, BC, that may compromise Ymir's drinking and fire-fighting water source. This project is meant to aid Ymir in accounting for natural assets and to provide guidance tools for management. This project has been done for and along side the Salmo Watershed Streamkeepers Society.

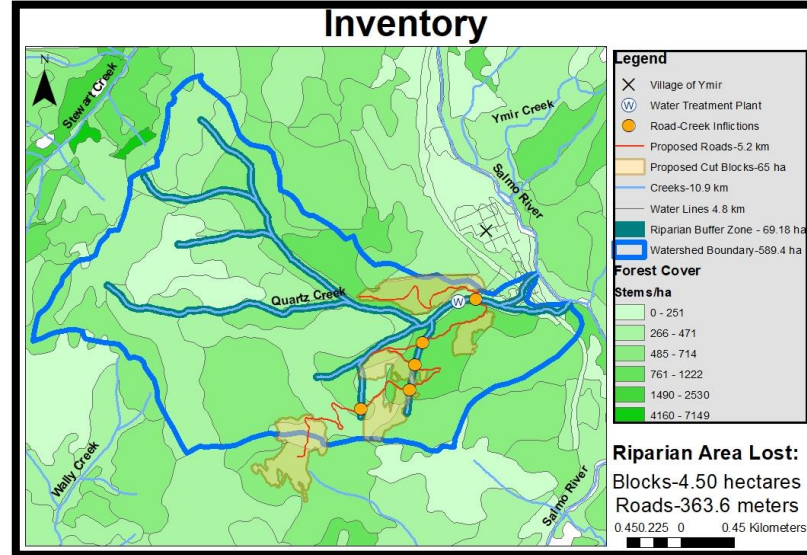
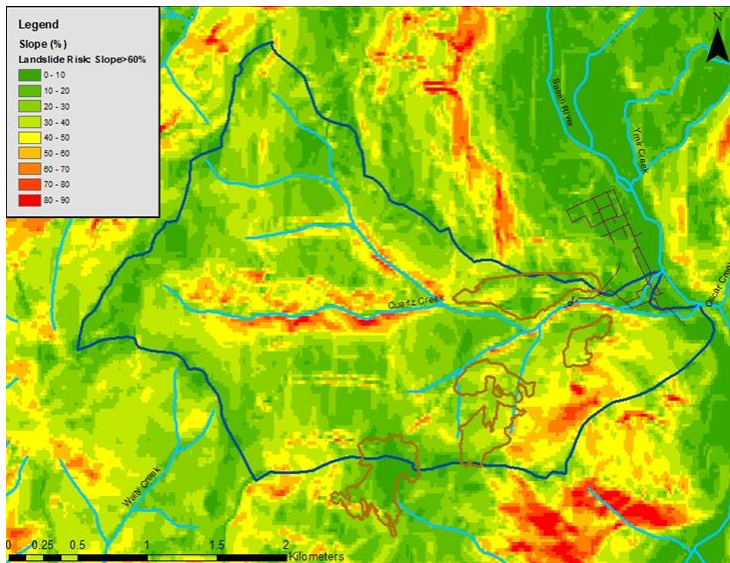


Natural assets: Features and processes of the environment that provide goods and services that would otherwise be provided by municipal governments at a cost.

## Methodology:

- Data collection from Selkirk College directory, Data BC, RDCK, BCTS, SWSS, and Environment Canada.
- Digitized water treatment facility, natural assets proposed logging plots, roads, and town water lines.
- Collected hydrological data, provincially sourced.
- Determination of economic, social, and cultural values of water to Ymir.
- Infrastructure and source replacement costs visualized with assistance from the SWSS and the RDCK.

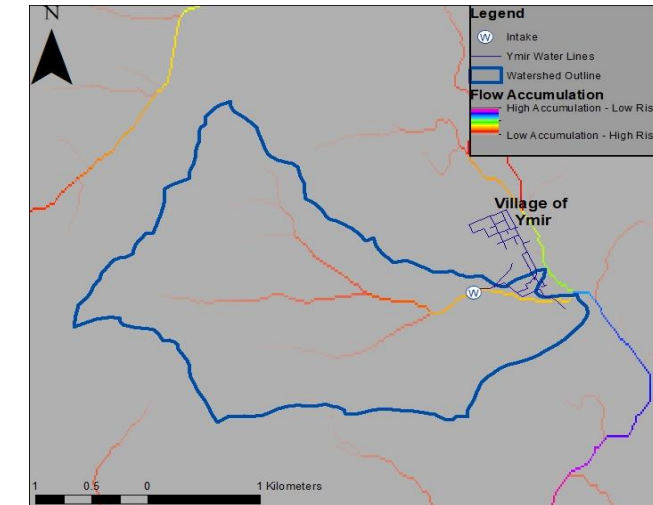
**Limitations:** No existing hydrological data-all estimations and representations. Field work could not be conducted due to season. Due to time constraints, some financial valuation aspects are missing from this project. The determination of alternative source costs is not accurate as there are too many unknown factors.



## Values:

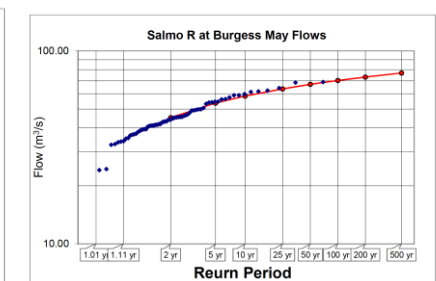
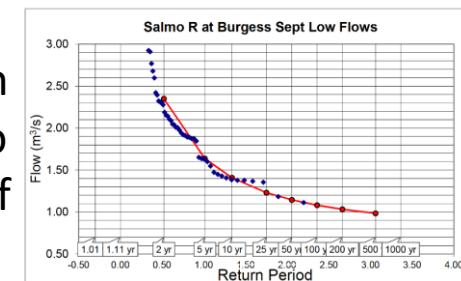
- Creek**-drinking and fire-fighting water source.
- Riparian**-Water quality and source protection.
- Forest**-Runoff and flood control.

Quartz Creek is Ymir's only economically feasible water source. According to the RDCK, redirecting the water source would exceed \$1,000,000 and cause an increase in operating and pumping costs due to location and elevation differences of other water sources.



Average Yearly Discharge (m <sup>3</sup> /s)	0.103
*Water Usage (m <sup>3</sup> /s)	0.00108
Annual Runoff (m <sup>3</sup> /year)	3,251,353
*Water Usage (m <sup>3</sup> /year)	34,138
Seasonal Sensitivities in Flow	Winter & Summer

\*Actual allocations are based of data from the RDCK. All other data are estimations, courtesy of FLNRO?.



\*Graphs are representatives of Quartz Creek. Courtesy of Environment Canada.